

WHAT IS CLAIMED IS:

1. A microwaveable container, comprising:

a food compartment including an airtight film covered thereon;

a pressure regulating compartment including an reversible vapor pressure  
5 regulating film sealed thereon; and

a passage assembly at a junction between the food compartment and the  
pressure regulating compartment, the passage assembly being airtight closed in  
a nonoperating state,

whereby heating the food compartment with a foodstuff contained therein  
10 will increase a vapor pressure of hot steam generated by evaporating water in  
the foodstuff, swell the airtight film, opening up the passage assembly, direct hot  
steam to the pressure regulating compartment from the food compartment via  
the passage assembly for releasing excessive pressure, swell the reversible  
vapor pressure regulating film, and cause hot steam to be automatically  
15 regulated by the reversible vapor pressure regulating film; and during cooling,  
the food compartment will cause the swelled airtight film and the swelled vapor  
pressure regulating film to contract, and return the food compartment and the  
pressure regulating compartment to their original states.

wherein the foodstuff is heated by means of radiation, when the vapor pressure  
20 exerted by the hot steam inside both the closed food compartment and the  
pressure regulating compartment is greater than the vapor pressure outside the  
vapor pressure regulating film, the heated vapor will inflate the pressure regulating  
compartment, and open up the pseudo-closed tiny gaps gradually, and the hot vapor  
pressure can be automatically regulated through the pressure deformed and enlarged  
25 pseudo-closed gaps along the vapor pressure regulating film within the pressure  
regulating compartment; on the other hand, when the heating source is removed,  
the temperature and the vapor pressure inside the closed food compartment and the

pressure regulating compartment are decreasing and the sealing ability of the pseudo-closed gaps along the vapor pressure regulating film is gradually restored when cooled; the self-venting ability is reversibly functional of pressure difference.

2. The microwaveable container of claim 1, wherein a forming of the passage assembly is carried out by applying a polymer layer of low adhesion strength on the junction, applying an adhesive material of low adhesion strength on the junction, or applying a lower heat sealing temperature on the junction.

3. The microwaveable container of claim 2, wherein the polymer layer is selected either from a group consisting of polyacrylic, polyester, polyamide, rubber, hot melt elastomer, silicone elastomer, ionomer, thermoplastics, and surfactant or a combination thereof.

4. A microwaveable bag, comprising:  
a food pocket, including an airtight film;  
a pressure regulating pocket substantially completely sealed, the pressure regulating pocket including a reversible vapor pressure regulating film; and  
a passage assembly at a junction between the food pocket and the pressure regulating pocket, the passage assembly being airtight closed in a nonoperating state,

whereby heating the food pocket with a foodstuff contained therein will increase a vapor pressure of hot steam generated by evaporating water in the foodstuff, swell the food pocket, open up the passage assembly, direct hot steam to the pressure regulating pocket from the food pocket via the passage assembly for releasing excessive pressure, swell the pressure regulating pocket, and cause hot steam to be automatically regulated by the reversible vapor pressure regulating film ; and during cooling, the food pocket will cause the swelled food pocket and the swelled pressure regulating pocket to contract, and return the food pocket and the pressure regulating pocket to their original

states.

5. The microwaveable bag of claim 4, wherein a forming of the passage assembly is carried out by applying a polymer layer of low adhesion strength on the junction, applying an adhesive material of low adhesion strength on the  
5 junction, or applying a lower heat sealing temperature on the junction.

6. The microwaveable bag of claim 5, wherein the polymer layer is selected either from a group consisting of polyacrylic, polyester, polyamide, rubber, hot melt elastomer, silicone elastomer, ionomer, thermoplastics, and surfactant or a combination thereof.

10 7. A method of manufacturing microwaveable package, comprising the steps of:

(a) forming a food region including an airtight film covered thereon;

(b) forming a pressure regulating region including an reversible vapor pressure regulating film sealed thereon; and

15 (c) applying an adhesive material of weak heat sealing strength on a junction between the food region and the pressure regulating region for forming a passage assembly which is airtight closed in a nonoperating state

whereby heating the food region with a foodstuff contained therein will increase a vapor pressure of hot steam generated by evaporating water in the  
20 foodstuff, swell the airtight film, opening up the passage assembly, direct hot steam to the pressure regulating region from the food region via the passage assembly for releasing excessive pressure, swell the reversible vapor pressure regulating film, and cause hot steam to be automatically regulated by the reversible vapor pressure regulating film; and during cooling, the food region will  
25 cause the swelled airtight film and the swelled vapor pressure regulating film to contract, and return the food region and the pressure regulating region to their original states.

8. The method of claim 7, wherein the forming of the passage assembly in the step (c) is done by heating, pressing, or ultrasonic heat sealing.
9. The method of claim 7, wherein the adhesive of weak heat sealing strength in the step (c) is selected either from a group consisting of polyacrylic, polyester, polyamide, rubber, hot melt elastomer, silicone elastomer, ionomer, thermoplastics, and surfactant or a combination thereof.
10. The method of claim 7, wherein the forming of the passage assembly in the step (c) is done by forming a plurality of gaps on the junction between the food region and the pressure regulating region and applying an adhesive of weak heat sealing strength on the passage so that heating the food region will open up the passage assembly and direct hot steam to the pressure regulating region from the food region via the passage assembly for releasing excessive pressure.
11. The method of claim 7, wherein the microwaveable package is a container or bag.